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ABSTRACT

Writing samples representing argumentation, exposition, narration, and description were gathered from 51 fifth-grade pupils. Significant differences were found among the four modes of writing and among high-, medium-, and low-ability groups for T-unit length, clauses per T-unit, and clause length. Argumentation produced the most complex writing, and description produced the least complex, with exposition and narration sharing an intermediary position which varied according to the measure chosen. Reading comprehension correlated positively with T-unit length and clause length. Implications are discussed in terms of writing instruction, writing research, and education in general. (AA)

THE IMPACT OF MODE ON WRITTEN SYNTACTIC COMPLEXITY

PART III--FIFTH GRADE

by

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This is the third in a series of reports concerning the impact of the four modes of discourse on written syntactic complexity at the elementary school level. This report, Part III, covers the writings of fifth-grade students. The over-all, three-grade study (3,4,5) covers the same time period, methods, and procedures in collecting and analyzing the data.

Parts I and II, covering third and fourth graders, revealed that writers at different ability levels, as well as different grade levels, produce significantly different levels of syntactic complexity across the four modes of argumentation, exposition, narration, and description. The findings also demonstrated that argumentation accounts for the most complex syntax, while description accounts for the least complex syntax. The modes of exposition and narration accounted for syntax that fell between the other two modes.

Part III involves the same general question as Parts I and II: Do children write at different syntactic levels in different modes of discourse? If so, what further implications might be suggested for writing instruction, research, and evaluation?

Background

One of the most influential English educators today is James Moffett, whose Teaching the Universe of Discourse has had an undeniably strong influence on language arts instruction across the grades. Moffett's work has re-awakened interest in the student's use of language in context. His student-centered curriculum focuses on the whole discourse, countering the usual textbook approach in which language is taught by isolated grammatical exercise:

> The curriculum separation of language study from composition cannot ensure that when a student elaborates sentences in his natural writing he does not do so in the

> the same a-rhetorical way he did during the exercises, for the learning and the learning set are bound by a very powerful association. (p. 170)

Moffett encouraged the recognition of context in all language processing. A student who completes an isolated sentence exercise usually does so by manipulating the pieces without any knowledge of where, when, or why such a sentence should be used in the first place. Moffett claimed that in normal communication, a sentence requires context--that is, experience within a time and place for a purpose that is meaningful to the child.

Moffett based his student-centered curriculum on Piaget's cognitive and Chomsky's linguistic developmental ideas. Piaget's theory requires time and space for development away from the egocentric toward the formal, abstract level of cognition. Moffett interpreted Piaget as saying that children are involved in a temporal series of advances that continuously substitute outer events for inner ones, leading from egocentricity outward toward individuality. Chomsky's transformational-generative ideas evolved from a theory that saw children as innately equipped to generate an infinite set of sentences. Chomsky's concepts required a speaking environment to stimulate use of the human factor of language, but growth was innately predisposed as an internally built-in process which took its clues from the experience of the speaker in language situations.

The spatial elements of Moffett's system involved what he called the "I-you" and the "I-it" relationships. The I-you was defined as personal communication with an audience, and the I-it as a personal extraction of information from raw phenomena. Thus, children communicated with others using

their own interpretations of subject matter. Moffett considers the two spatial relationships basic to natural communication. Children develop out of their self-centered worlds--via interior dialog (reflection), conversation, correspondence, and public narration--through egocentric, then personal, and finally impersonal audiences.

The temporal elements of Moffett's curriculum include the dramatic present (what is happening), the narrative past (what happened), the expository present (what happens), and the arguable future (what may happen). Time is the platform for the classical modes of discourse: description, narration, exposition, and argumentation (with the only difference being Moffett's replacement of description with drama, as a concrete expression or acting out of what children perceive in raw phenomena). Moffett sums up his position:

> Thus, some traditional categories of discourse--drama, narration, exposition, and argumentation--become redefined in terms of (1) distance between speaker and subject; (2) levels of increasing abstraction; and (3) a sequence of activities or skills which the student should learn how to do--record, report, generalize, and theorize--in that order (keeping in mind that we are referring to whole discourse, not just to sentences). (p. 36)

In writing, students mesh all the separable parts of the composing process into one act. Moffett suggests that it is a multi-dimensional process, with traces of every aspect surfacing at every level. Kantor (1976) has shown how the modes that appear more accessible to younger students (narration and description) allow them access to the cognitively more difficult modes (exposition and argumentation). He uses examples of children's writings at the fifth-grade level to illustrate how the writers interweave narratives and descriptions to support their explanations and arguments. Such multi-dimensional interweavings appear only transferrable by means of

instructional tasks which take into consideration the whole discourse, as Moffett contends.

The syntactic part of this multi-dimensional process also may throw some light on the instructional strategies necessary. Some of the temporal aspects of the process have been detailed in the mode-based tendencies of extending the size and increasing the number of clauses inside the T-unit, which was referred to in Part II. A recent study by Smith and Swan (1976) illustrates the potential influence of the spatial "I-you". That study sought to measure changes in syntactic complexity when different ability writers directed their writings toward different audiences. Sixth graders, college freshmen, and college upperclassmen were asked to rewrite Smith's "Bee" passage, a rewriting instrument that correlated highly with O'Donnell and Hunt's "Aluminum" passage (Smith, forthcoming). All groups were instructed to rewrite the passage for different levels of audience, with the expectation that "At," "Below," and "Above" responses would be elicited. None of the groups were able to rewrite the passage at significantly different levels "Above." And only the college-aged students were able to rewrite the passage "Below." Sixth graders could not control their syntax in either direction in a statistically significant manner. Thus, these students appeared more developmentally restrained. It appears that only relatively mature writers can adjust their syntactic complexity "down" for lower level audiences--but audience does appear to effect syntactic complexity under certain circumstances.

This study focuses on the possible implications of the syntactic part of the multi-dimensional act of composition when the modes of discourse are controlled.

The Fifth-Grade Study

The 51 fifth-grade students participating in Part III underwent the same procedures at the same time as the third and fourth graders of Parts I and II. These fifth graders included 25 girls and 26 boys. All were white and enrolled in two self-contained classrooms in two different schools in the same Metro Atlanta school district.

Considering the grade level and normal practices in their classes, the teachers read each topic aloud, with the students asked to follow along silently. A five-minute discussion period followed this reading, allowing the students to talk about the topic. The teachers answered all questions to the best of their ability. They were also instructed to tell the class that spelling was not a crucial matter. The children were also told that they were not involved in a test and their writings would not be graded. They were informed that the writings were to be used to learn more about how children at their grade level learned to write.

Each writing topic was printed on a separate sheet of 8 x 10 paper, preceded by lines for the student's name, name of the school, and the date. The papers contained triple-spaced lines on the topic side, and students were allowed to continue onto the other side if they filled up the front. The topics, according to the mode, were:

Argumentation: "Children may someday go to school all year long. Some children in San Diego, California, do it now. Do you think it is a good idea? Why or why not?"

Exposition: "Where do you go and what do you do after school? Do you have a special place to go, a job to do, a friend to play with? Would you like to take a new friend with you after school? What can you tell about the best thing to do after school?"

Narration: "Tell about a TV show that you like a lot. What happens in the show? How does it make you feel? Do you think other children would like it, too?"

Description: "Write about yourself. Tell what you look like. Tell what you like to do. What is your school like? What does your classroom look like? What do you do there? What do you do at recess? What is your favorite subject in school?"

In any mode-based study, it should be pointed out that the concept of "mode" is not a pure one. The fact that children are stimulated to write in the mode of argumentation, for example, does not mean they will write in an argumentative way exclusively. Modes of writing overlap; children writing in exposition may take time out from their explanation to argue what's best at a critical point, to describe an entity being used, and even to narrate a related anecdote.

With this in mind, then, this study defines mode as a production in which the writer's attention is directed in one of the following ways:

1. In using language that--in the main--argues a point of view, defends a position, expresses an emotional inclination, or tries to persuade, the writer is considered to be writing in the mode of argumentation.

2. In using language that--in the main--explains a procedure or an experience (in a restricted framework), the writer is considered to be writing in the mode of exposition.

3. In using language that--in the main--tells a sequence of events, observances, or experiences, the writer is considered to be writing in the mode of narration.

4. In using language that--in the main--depicts people, places, things, and/or events in detail, the writer is considered to be writing in the mode of description.

The over-all study takes its definition of mode from this researcher's level of comprehension regarding the differences involved, as noted above. The papers included in this study were those that met the criteria above.

Some 34 papers were eliminated in this process, leaving 204 writings to be analyzed as representing the four mode-based productions of the 51 fifth-grade children participating.

An average of 628 words per student were collected over the four writings. For the group comparisons required of this study, therefore, it was felt that the above amounts were sufficiently representative.

The procedures used for segmenting the written productions into T-units were similar to those used by Hunt (1965), O'Donnell, Griffin, and Norris (1967), and O'Hare (1973). They are described in full, along with a description of the syntactic factors, in Perron (1974, pp. 103-110). The syntactic variables in this study--T-unit length (words per T-unit), clauses per T-unit (dependent clauses per independent clause), and clause length (words per clause)--were chosen because they have been shown by Hunt to correlate with mental and chronological age. Also, they were among the 23 variables shown by San Jose (1972) to be significantly discriminating across the four modes.

In addition to the analysis of the productions of the full group, the students' productions were investigated based on assignment to ability groups. High, middle, and low subgroups were established by means of reading comprehension scores obtained from the Gates-McGinitie tests administered in April 1975. Three of the 51 students were recent transfers into the district; lacking such scores, they were not included in the subgrouping procedures or tests. Instead of raw scores, the grade equivalent scores were used for consistency with the later analysis of across-the-grades effects (Part IV).

The statistical procedures used in this study included Pearson's r, analysis of variance, and t-test procedures (Nie, 1975). Also, repeated measures procedures were utilized (Dixon, 1973). All tests were run on the IBM 360/370 systems through the Educational Research Laboratory at the University of Georgia. For all statistical procedures, the .05 level of significance was chosen as the most pertinent level because it was felt that a .1 level would have permitted possible Type I errors while a .01 level would have missed many valuable insights.

Specifically, Part III is designed to investigate the following questions concerning the impact of mode on written syntactic complexity at the fifth-grade level:

1. Are there differences between the boys and girls in age, reading comprehension, and written syntactic complexity as measured by three syntactic factors?

2. Are there differences between the girls and boys within each of the four modes regarding written syntactic complexity as measured by T-unit length means?

3. Based on ability groupings, are there differences among the high, middle, and low subgroups concerning age, reading comprehension, and written syntactic complexity as measured by three syntactic factors?

4. Are there differences among the high, middle, and low subgroups regarding written syntactic complexity as measured by T-unit length means within each of the four modes?

5. In each of the ability groups, are there differences across the four modes regarding written syntactic complexity as measured by three syntactic factors?

6. Based on the full group data, are there differences across the four modes in written syntactic complexity as measured by the three syntactic factors?

7. If differences emerge across the modes in any of the three syntactic factors (#6, above), how do the modes line up (highest to lowest), and are their rankings different in a statistically significant way, one from another?

8. Finally, are there correlations among age, sex, reading comprehension, T-unit length, clauses per T-unit, and clause length means?

Findings

It was first decided to investigate possible population differences or similarities by sex, using analysis of variance procedures. Table I shows that the girls and boys did not significantly differ by age. Their reading comprehension grade equivalent means were also not significantly different. In the three syntactic factors, the boys' T-unit length means were not significantly different from the girls'. In clauses per T-unit, their scores were almost equal; and in clause length, the boys' higher 7.44 words per clause was not significantly different from the girls' 7.17 words per clause mean.

TABLE I

COMPARISON OF BOYS AND GIRLS BY AGE, READING COMPREHENSION SCORES (RC), AND THREE SYNTACTIC FACTORS

		Boys		Girls		
Factor	N	(N=26)	SD	(N=25)	SD	F-value
Age (yrs,mos)	51	10.6	.50	10.6	.42	.02 (NS)
1_{RC}	48	5.1	1.96	4.4	1.80	1.81 (NS)
Words/T-unit	51	10.06	1.70	9.75	1.46	.50 (NS)
Clauses/T-unit	51	1.35	.14	1.36	.14	.05 (NS)
Words/Clause	51	7.44	.98	7.17	.93	.97 (NS)

DF: 1,49 (F-value required at .05=4.04)

NS--Not significant

1. RC included 48 available Gates-McGinitie test scores (Boys, 25; Girls, 23). DF: 1,46 (F-value required at .05=4.05)

Table II uses analysis of variance to compare the T-unit length means of the two sexes within each of the four modes. In description, exposition, and argumentation, the boys' and girls' productions do not significantly differ. But in narration, the boys produced more complex T-units than the girls; the difference was statistically significant.

TABLE II

COMPARISON OF BOYS AND GIRLS BY T-UNIT LENGTH MEANS

WITHIN THE FOUR MODES

Modes	Boys (N=26)	SD	Girls (N=25)	SD	F-value
Description	8.56	2.18	8.40	1.46	.09 (NS)
Narration	10.24	2.39	8.84	1.55	6.07*
Exposition	10.28	2.41	10.56	3.58	.11 (NS)
Argumentation	13.17	3.27	12.95	3.33	.06 (NS)

DF: 1,49 (F-value required at .05=4.04)

NS--Not significant
*--significant at or beyond the .05 level.

The students were assigned to subgroups based on their reading comprehension abilities. Repeated measures procedures were used to compare the high, middle, and low ability means. Table III indicates that the groupings seem to line up according to age levels; the older students were at the bottom, while the middle and high groups were mixed, and this difference was statistically significant. Since the groups were based on reading comprehension scores, the significant difference between their RC means was expected. In T-unit length means, the high group recorded the highest complexity level, followed by the middle group, then the low; the difference between

the groups was statistically significant. In clauses per T-unit, this same alignment resulted, and the differences were again significant. In clause length, a similar order resulted, with the differences again statistically significant.

TABLE III

DISTRIBUTION ACROSS ABILITY GROUPS OF AGE, T-UNIT LENGTH, CLAUSES PER T-UNIT, AND CLAUSE LENGTH MEANS

	Reading Comprehension (RC) Subgroups						
	LOW		MIDDLE		HIGH		
Factor	(N=16)	SD	(N=16)	SD	(N=16)	SD	F-value
Age (yrs,mos)	10.8	.54	10.4	.33	10.5	.38	4.23*
^{1}RC	3.4	.53	4.7	.42	6.2	2.56	13.59***
Words/T-unit	8.96	1.54	9.68	1.01	11.11	1.47	10.35***
Clauses/T-unit	1.31	.16	1.33	.10	1.43	.14	3.54*
Words/Clause	6.85	.96	7.31	.72	7.82	1.02	4.57*

DF: 2,45 (F-value required at .05=3.21; at .001=8.25)

*--significant at or beyond the .05 level

***--significant at or beyond the .001 level

1. At the time of RC testing, the expected mean was 4.7 (April 1975).

On the next page, Table IV compares T-unit length means of the low, middle, and high groups--within each mode--by repeated measures procedures. Although producing T-unit length means that consistently ranged in order upwards from low to high group, only narration and description modes showed significant differences. In exposition and argumentation, the T-unit length means of the ability groups were not significantly different.

TABLE IV

DISTRIBUTION ACROSS ABILITY GROUPS OF T-UNIT LENGTH

MEANS WITHIN FOUR MODES

	Reading Comprehension (RC) Subgroups						
	LOW		MIDDLE		HIGH		
Mode	(N=16)	SD	(N=16)	SD	(N=16)	SD	F-value
Description	7.55	1.34	8.28	1.74	9.73	1.96	6.84**
Narration	8.91	1.97	9.01	1.98	10.80	2.16	4.33*
Exposition	9.20	2.39	10.42	2.72	11.78	3.60	3.08 (NS)
Argumentation	11.73	3.09	12.76	3.48	14.28	2.74	2.70 (NS)

DF: 2,45 (F-value required at .05=3.21; at .01=5.12)

NS--Not significant
* --significant at or beyond the .05 level
**--significant at or beyond the .01 level

On the next page, Table V investigates the three syntactic factors via repeated measures procedures across the modes by separate ability group. Within each group, the results indicate that the three syntactic factors emerge as significantly different across the modes. That is, in T-unit length, different levels of syntactic complexity are recorded, which range from a low in description, to a higher recording in narration, a higher recording in exposition, and finally, the highest recording in argumentation. This is repeated for the middle and high groups. All differences are significant at or beyond the .001 level. In clauses per T-unit, all three ability groups demonstrate significant differences across the modes, although the mode of exposition records lower levels of complexity than narration here. In clause length means, narration emerges as the least complex mode in each ability group. In the low ability group, argumentation records the highest complexity,

but the middle and high groups give the highest complexity rating to exposition. In all cases, the differences are statistically significant.

TABLE V

DISTRIBUTION ACROSS THE MODES OF THREE SYNTACTIC FACTORS BY ABILITY GROUP

Sub-group	Factor	MODES[1] D	N	E	A	F-value
LOW (N=16)	Words/T-unit	7.55	8.91	9.19	11.73	9.31***
	Clauses/T-unit	1.14	1.41	1.27	1.55	7.38***
	Words/Clause	6.58	6.33	7.26	7.71	3.19*
MID (N-16)	Words/T-unit	8.28	9.01	10.42	12.77	9.43***
	Clauses/T-unit	1.14	1.36	1.28	1.73	11.45***
	Words/Clause	7.23	6.63	8.17	7.58	3.25*
HIGH (N=16)	Words/T-unit	9.73	10.80	11.78	14.28	8.36***
	Clauses/T-unit	1.20	1.54	1.35	1.81	17.42***
	Words/Clause	8.15	7.02	8.98	7.87	2.85*

DF: 3,60 (F-value required at .05=2.76; at .01=4.13; at .001=6.17)

* -- significant at or beyond the .05 level
***--significant at or beyond the .001 level

1. Modes: D=Description; N=Narration; E=Exposition; A=Argumentation

Table VI again uses repeated measures procedures to compare the full group's syntactic factors across the modes. In all three syntactic factors -- T-unit length, clauses per T-unit, and clause length--the students produced writings that were significantly different in complexity; the differences were significant at or beyond the .001 level.

TABLE VI

DISTRIBUTION ACROSS THE MODES OF THE FULL GROUP'S

THREE SYNTACTIC FACTORS

Factor	n	D	N	E	A	F-value
Words/T-unit	51	8.48	9.56	10.42	13.06	28.22***
Clauses/T-unit	51	1.17	1.44	1.30	1.71	37.50***
Words/Clause	51	7.27	6.64	8.12	7.72	7.88***

DF: 3,200 (F-value required at .001=5.42)

***--significant at or beyond the .001 level

1. Modes: D=Description; N=Narration; E=Exposition; A=Argumentation

With the establishment of significant differences across the modes in all three syntactic factors, two-tailed t-tests were run, using paired modes to determine the relative rankings of the modes in each syntactic factor. On the next page, Table VII shows the results of a comparison of T-unit length means of the four modes. Argumentation registers the highest syntactic complexity in this factor, followed by exposition and narration at a significantly lower level; the latter two modes do not differ statistically. The lowest syntactic complexity is found in description, which is significantly less complex than either exposition or narration.

On page 16, Table VIII compares the clause per T-unit means (dependent clauses per independent clause) across the four modes. The two-tailed t-tests show argumentation as registering the most complexity in this factor. Narration, which is next highest, is followed at a less complex level by exposition. Description is the least complex of the modes here, also. All differences are statistically significant.

TABLE VII

T-TESTS OF T-UNIT LENGTH MEANS ACROSS PAIRED MODES

Mode X Mode (N=51)	Words/ T-unit	SD	Difference T-value	2-Tailed Probability	Relationship
Description (D)	8.48	1.85	-3.37	.001	N > D
Narration (N)	9.56	2.12			
Description (D)	8.48	1.85	-9.56	.000	A > D
Argumentation (A)	13.06	3.27			
Description (D)	8.48	1.85	-4.43	.000	E > D
Exposition (E)	10.42	3.01			
Narration (N)	9.56	2.12	-7.51	.000	A > N
Argumentation (A)	13.06	3.27			
Narration (N)	9.56	2.12	-1.92	.06	N = E
Exposition (E)	10.42	3.01			
Argumentation (A)	13.06	3.27	5.31	.000	A > E
Exposition (E)	10.42	3.01			

DF: 50

Full Relationships: A > E = N > D

TABLE VIII

T-TESTS OF CLAUSES PER T-UNIT MEANS ACROSS PAIRED MODES

Mode X mode (N=51)	Clauses/ T-unit	SD	Difference T-value	2-Tailed Probability	Relationship
Description (D)	1.17	.14	-6.80	.000	N > D
Narration (N)	1.44	.26			
Description (D)	1.17	.14	-9.95	.000	A > D
Argumentation (A)	1.71	.39			
Description (D)	1.17	.14	-3.41	.001	E > D
Exposition (E)	1.30	.26			
Narration (N)	1.44	.26	-4.70	.000	A > N
Argumentation (A)	1.71	.39			
Narration (N)	1.44	.26	3.53	.001	N > E
Exposition (E)	1.30	.26			
Argumentation (A)	1.71	.39	7.01	.000	A > E
Exposition (E)	1.30	.26			

DF: 50

Full Relationships: A > N > E > D

TABLE IX

T-TESTS OF CLAUSE LENGTH MEANS ACROSS PAIRED MODES

Mode X Mode (N=51)	Words/ Clause	SD	Difference T-value	2-Tailed Probability	Relationship
Description (D)	7.27	1.40	3.17	.003	D > N
Narration (N)	6.64	.97			
Description (D)	7.27	1.40	-1.76	.08	A = D
Argumentation (A)	7.72	1.54			
Description (D)	7.27	1.40	-2.86	.006	E > D
Exposition (E)	8.12	2.26			
Narration (N)	6.64	.97	-4.03	.000	A > N
Argumentation (A)	7.72	1.54			
Narration (N)	6.64	.97	-4.50	.000	E > N
Exposition (E)	8.12	2.26			
Argumentation (A)	7.72	1.54	-1.37	.17	E = A
Exposition (E)	8.12	2.26			

DF: 50

Full Relationships: E > D
E = A = D > N

On the preceding page (p. 17), Table IX shows the results of t-tests comparing the clause length means across the four modes. Exposition is tied with argumentation as the most complex modes; however, exposition is significantly more complex than description, while argumentation is not. The only pure difference emerges with narration, which is shown to be significantly less complex than all three of the other modes.

Table X investigates age, reading comprehension, sex, and the three syntactic factors for possible correlations. Pearson's Product-Moment procedures were used to compare the various means. The results indicate that sex does not correlate with any of the other factors. Age is negatively correlated with T-unit and clause length means. Reading comprehension is positively correlated with T-unit and clause length means. T-unit length is positively correlated with clauses per T-unit and clause length factors, but clauses per T-unit and clause length factors are not correlated with each other. Table X is shown on the next page.

Conclusions

Part III has revealed that the modes of discourse play a basic role in the research, evaluation, and instructional strategies of writing at the fifth-grade level. The findings validate earlier studies (Seegars, 1933; San Jose, 1972) and reaffirm the results of Parts I and II (Perron, May 1976 and June 1976). Part III allows the following answers to the questions posed on pp. 8-9:

1. The fifth-grade boys and girls of this study were shown to be of similar age and reading comprehension ability. They also demonstrated similar ranges of written syntactic complexity in the three syntactic factors.

TABLE X

CORRELATION COEFFICIENTS AMONG AGE, SEX, READING COMPREHENSION SCORES (RC), T-UNIT LENGTH, CLAUSES PER T-UNIT, AND CLAUSE LENGTH MEANS

Factor X Factor	Cases	Coefficients	Two-Tailed Significance
Age by:			
RC	48	-.0588	.69
Sex	51	-.0190	.90
Words/T-unit	51	-.3328	.02
Clauses/T-unit	51	-.0554	.70
Words/Clause	51	-.3556	.01
RC by:			
Sex	48	-.1945	.18
Words/T-unit	48	.3263	.02
Clauses/T-unit	48	.0307	.84
Words/Clause	48	.4242	.003
Sex by:			
Words/T-unit	51	-.1005	.48
Clauses/T-unit	51	.0327	.82
Words/Clause	51	-.1388	.33
Words/T-unit by:			
Clauses/T-unit	51	.6098	.001
Words/Clause	51	.7753	.001
Clauses T/unit by:			
Words/Clause	51	-.0218	.88

2. Their written productions were comparable in T-unit complexity in three of the four modes: argumentation, exposition, and description. However, the boys wrote significantly more complex T-units than the girls in narration. One might interpret this result as indicating that boys were more capable than girls with this mode; however, this researcher feels that the topic might have had something to do with it. Perron (September 1976) is currently investigating the problem.

3. When the full group was divided into ability groups based on reading comprehension grade equivalent scores, the low group consistently produced the least complex syntax in all three factors, followed by the middle group with significantly more complex syntax, then by the high group with significantly more complex syntax than the middle group. Thus, the ability groupings seemed to have been fairly divided for writing comparisons.

4. The three ability groups were investigated for differences in T-unit complexity by mode; only two of the four modes accounted for ability differences: description and narration. The low, middle, and high groups did not significantly differ by T-unit complexity in the modes of exposition and argumentation. Over-all, the direction of increasing complexity from low to high is consistent. The less complex modes seem to encourage significant differences while the more complex modes do not--at this level. However, the implication may also be that either the less capable writers are gaining or the more capable writers are distinguishing themselves less in the more complex modes--or both.

5. The separate ability groups were investigated across the modes next. Within each group, written syntactic complexity differed significantly across the modes. As demonstrated by T-unit length and clauses per T-unit means, the differences were significant at or beyond the .001 level for each group. When clause length means were compared across the modes, each ability group showed significant differences at or beyond the .05 level. Thus, regardless of the ability level, the fifth graders of this study produced writings that differed syntactically across the modes. The tendency was consistently upward, from low to high group, with a 6.73 words per T-unit (w/T) range, which should alert experimenters to the importance of controlling for mode effects in writing research.

6. When the writings of the full group of 51 fifth graders were investigated for differences in syntactic complexity across the modes, the results showed that the modes of discourse are a significant variable in writing analysis. In all three factors, the differences across the modes were significant at or beyond the .001 level. In T-unit length, description accounted for the least complex syntax, with a mean of 8.48 w/T; narration was higher with a mean of 9.56 w/T; exposition was next highest, with a mean of 10.42 w/T; finally, argumentation accounted for the most complex syntax, with a mean

of 13.06 w/T. In clauses per T-unit, the factor which illustrates the numbers of dependent clauses in each independent clause, description accounted for the least complexity; exposition was next, followed by narration, then argumentation--each in ascending order, encouraging more and more dependent clauses. In clause length, the factor which shows the expansion of all clauses inside the T-unit, narration was shown as encouraging the least expansion, followed by description, argumentation, and exposition--respectively--encouraging more and more clause expansion inside the T-unit. As in Parts I and II, Part III has revealed that the different modes of discourse are capable of encouraging different levels of syntactic complexity in children's writing. The data also has shown that fifth graders continue to expand their T-units by adding dependent clauses at different rates by mode. They also continued to expand the size of their clauses--at different rates by mode--although the impact of the modes in this factor appears to be lessening at this grade level.

7. Since the differences across the modes were significant, t-tests between paired modes were run to illustrate how the modes ranked in syntactic complexity. In T-unit length, "the best index of grade level" in writing analysis (Hunt, p. 50), argumentation was shown to account for significantly more complex syntax than the other three modes, while exposition and narration were tied in the middle and description followed as the least complex mode. In clauses per T-unit, argumentation was shown to lead the other modes in encouraging increasing numbers of dependent clauses, followed by narration, exposition, and description--all at significantly lower and lower levels. In clause length, narration was shown to encourage the least expansion of clauses inside the T-unit; description was tied with argumentation, which was tied with exposition as the most complex modes (although exposition was significantly more complex here than description). Growth in written syntactic complexity, as measured by T-unit length, requires both an increase in the numbers of dependent clauses and the expansion of all clauses. Argumentation seems to encourage the highest gains in both these processes. The next highest encouragement for T-unit gains comes from exposition and narration, but exposition obtains this position by encouraging the expansion of clauses, while narration gains this position by enticing more dependent clauses into the T-unit. Description, although encouraging the least complexity in T-unit growth over-all, appears to encourage more expansion of clauses inside the T-unit than does narration at this grade level. Thus, each mode appears to play a unique role in encouraging syntactic complexity in the writing of elementary school children.

8. When the various factors were compared for possible correlations, sex correlated with no other factor; thus, whether the fifth grader were a boy or a girl had nothing to do with differences registered by mode in this study. Age correlated only with T-unit and clause length

factors--in a negative way. But the coefficients were too low to interpret as informative. As was shown earlier, age was a significant variable, placing many of the older students in the less capable, low group. Thus, it was likely that such a negative correlation would occur; however, the coefficient again was too low to be of value as an indicator of general tendencies for fifth graders. The reading comprehension means were shown to correlate with T-unit length and clause length factors; but once more, the coefficients were too low to be interpreted as informative. However, T-unit length did correlate positively with clauses per T-unit and clause length factors; the coefficients were sufficiently high to be interpreted as major factors in T-unit complexity, and this outcome was expected. However, clauses per T-unit and clause length factors did not correlate; thus, the process of increasing the numbers of dependent clauses has no direct impact on the process of clause expansion within the T-unit--and vice-versa.

Implications

Fifth-grade writers have been shown to use different syntactic complexity levels in different modes of discourse. As they did with the third- and fourth-graders of Parts I and II, the different modes of argumentation, exposition, narration, and description present different syntactic challenges to the fifth-grade writers of Part III.

The implications regarding cognitive, linguistic, and moral development of Parts I and II also apply to Part III. Also, common insights apply across the board regarding the impact of modes on research, evaluation, and instructional techniques in writing development at these grade levels. Detailed comparisons will be presented in the next report of the series (Part IV).

Several new implications appear to surface concerning writing research in Part III. Based on the findings of this study, both experimental and descriptive studies appear to require controls for the impact of the modes on syntactic complexity. Past research projects which have not controlled for mode effect should be reviewed with these findings in mind. It appears that syntactic complexity (often called syntactic "maturity") levels may be influenced to an unknown degree in such studies by significant internal

structural changes due to variable mode effects. Studies which have controlled for mode would be supported on the basis of the findings of this study. No research to date has established normative data on syntactic complexity (or maturity) levels by grade or age. Studies that profess this inclination should be reviewed with these findings in mind.

Researchers should also be alert to the basic need to determine the main direction of the modes by content, not by stimuli; that is, a researcher should not accept a stimulus' mode-base as the sole criterion for determining the resulting writing's mode. Since children may mix or change the modes in their writings, the content of the writing should be carefully perused for main effect. Kantor (1976) has shown how children use more accessible modes to enter the more difficult modes; it is also the case that children often get carried away from their original mode base--by forgetting and by design--and end up switching modes completely. Several writings in this study's collection had to be eliminated because of this tendency. Thus, the main mode effect of the content was considered the logical way to handle this. For instance, a young writer stimulated by topic or experience to argue a point of view might find it more convenient to refer the audience to a narrative concerning the topic; if the writer gets carried away and writes only in narration--forgetting his argument entirely--only narration would be involved. But if the writer uses narrative to further support the argument, the main effect would remain in the mode of argumentation. It is therefore necessary for researchers to read the content of the writings with care to determine the actual mode base. This was the reason behind the descriptions

of the modes given on p. 6 of this report.

The intermittent tendencies of younger writers to change mode bases in writing also points up another quandary: does the stretching influence of some stimuli go beyond the reach of the writer? I believe the data we have collected so far tends to answer this in the affirmative. That is, when a child consistently switches modes completely, it should be obvious that the child is struggling to higher structural levels than he or she is capable of attaining. I do not feel that this is damaging, since the switch has taken place subconsciously to ease the entry to the higher challenge. At the same time, such children should also be given equal opportunities to use less challenging modes--in more directed ways.

The latter insight also casts light on the teacher's role in evaluating children's writing. Teachers should be alert to the many strategies available to children in the various modes. Stimulated to write in one mode according to the desires of some arbitrary topic, a child may not meet the challenge head-on but instead choose to write in a roundabout fashion toward the ideas which the child perceives in the topic. Thus, children who attempt to write an exposition concerning, for example, how to use a television set, may revert to the more accessible descriptive or narrative modes, describing a set by its pieces or telling about a favorite TV show. The teacher whose main interest is seeing how the child explains the use of a TV set may be disappointed: in fact, the teacher may criticize the child's effort and thereby miss the clues being given by the child's limited performance. Since the stretching influence of mode apparently failed in the above case, the teacher would be better advised to acknowledge the content and mode switch, then turn to ways to deal with encouraging that child into those higher modes. One way would be to present the less capable writer with alternative topics in the

same mode; another way would be to present the same topic in alternative modes--with the option of choice involved. The deep mental workings of the syntactic complexities involved from mode to mode are beyond the reach of even the most sophisticated linguist; and teachers who are overly critical of surface results fail to take into account the accompanying cognitive and linguistic implications. Such criticism may miss the mark, then, and children may become confused about expressing themselves in future writing events.

Further clues for teacher-evaluators of writing have emerged from this study. An important one concerns quality. Teachers who are aware of the difficulty factor of the various modes realize that children, in struggling with the higher complexities of argumentation and exposition, may tangle up their prose in syntactic shortcomings. This may be evidenced by such problems as run-on sentences, false starts (garbles and fragments), and misembeddings (where a referent is confused or ideas vary from clause to clause). Many such problems basically reflect an attempt to embed more ideas than can be easily handled via the limited structural paths at the writer's command. In such cases, the over-all quality of writing is likely to suffer. It would seem logical, then, that children who attempt to write in more difficult prose may be helped more by praise for their courage to experiment than by criticism for their failure to succeed--especially since that failure is only failure based on the immediate product (and even professional writers usually re-read and re-write initial drafts, while novices cannot attain that objective distance as quickly and easily). Such surface errors will disappear as the novice becomes more experienced (and has more guidance) in writing as an act, is cognitively and linguistically more developed to react to and con-

trol the underlying structures of the language, and finally,is developmentally ready to objectively re-read and re-write initial drafts.

A general insight for evaluation seems to be that young writers who attempt to stretch their skills toward their full writing potential will as often as not make errors of logic and syntax on the way. The wise teacher will encourage their efforts and support experimentation generally. Criticism may be challenging when it deals with content, but it may be more useful when it covertly leads the writer in a positive direction for increasing syntactic capacity.

The findings of this study also suggest instructional strategies for teachers of writing at the elementary levels. The most basic strategy involves the use of all the modes of discourse. On the surface, it appears that all children benefit from the different syntactic challenges of the different modes. Either the switches in structural complexities from mode to mode, or the more challenging complexity of the higher modes may explain the potential syntactic development available in this strategy. For instance, the underlying clausal processes which feed into T-unit development, as has been demonstrated here, shift from mode to mode. In argumentation, both an expansion of clauses and an increase in dependent clauses is encouraged. The other three modes provide more encouragement for one process than another. In other words, each mode appears to present a specific challenge to natural writing development. They may also provide stimulation in a similar manner to cognitive, linguistic, and moral development.

Most teachers cannot be expected to understand the complex structural processes accompanying the apparently simple, surface products of their writers.

But they can be alert to the writing opportunities which allow for them. The main criteria of any writing task is context--as pointed out by Moffett. Fostering intellectual growth through writing should not be a piecemeal affair. It should be viewed as a full process that only occurs in whole discourse. Thus, teachers would be well advised to provide the young writer with as many opportunities and motivations for enjoyable writing experiences--in all the modes--as often and in as balanced a fashion as possible. However, as this study shows, children will operate in whatever mode they feel most comfortable with and most supportive of their writing energies. Thus, no matter the objective, it may not be met entirely when it comes to mode. It appears, then, that teachers should offer a balanced diet but not expect the children to follow it. This is a normal quandary of teaching. Although teachers should be relentless in encouraging children to cover all the modes, they should always be aware that beginning and maturing writers deserve the patience and respect necessary when it comes to selecting their modes to utilize internal capacities of syntax. Of course, this would also mean that intermittent opportunities be given to write freely about any subject in any mode. The teacher's job, then, is to encourage, not command.

The findings also imply that mode may play a more influential role in syntactic development than audience--at least at this level. In the Smith and Swan study (1976), the college-aged writers were able to write "down" to less capable writers; the sixth graders were not. Neither sixth graders nor college-aged students were able to write "up"--that is, beyond their normal syntactic capacity. Thus, the sixth graders appear to be more closely restrained by their developmental level. At this level, the spatial influence

of audience appears to play a minor role in syntactic complexity. This may change, and apparently it does--based on the findings of Smith and Swan. But certainly mode's influence at this level is stronger. Over-all, another insight into the development of writing appears: certain portions of the spatial and temporal elements of the writing act may be interdependent. Such relationships could only be processed in the full composition act--once more supporting Moffett's claims.

Finally, the implications of this study may extend to education in general. Taking its clues from natural development (as revealed by syntactic studies such as this one), education would have to place variety--in all disciplines, contents, arts, and skills--at the heart of the curriculum. Education is obviously directed at over-all intellectual development. But underlying all such functional development is the accompanying formal development. The surface strategies are founded on underlying structural complexities, ordered and regulated by innate predispositions of cognition and language. Only through the structural organization and reorganization of these faculties can surface strategies be carried out and growth occur. The best framework for such development must be realistic--changing, exciting, motivating, and as personalized as possible. The underlying growth essential to intellectual potential must be directed as closely to its basic nature as can be discovered in research. Surface switches of experience seem to stimulate development. Through writing in different modes, children participate in beneficial surface switches. The higher syntactic potential may mirror the higher intellectual potential. Through writing, then, the higher human potential that lies hidden in the recesses of every human being's cognitive and linguistic capacities may find its way to the surface.

One final note should be inserted at this point: the fact that this study may be interpreted as providing evidence of natural developmental strategies should not be interpreted as support for the position that intelligence can be speeded up. In suggesting switches by mode in instructional tasks, it is not my intent to accelerate development but to acknowledge its direction. Instructional strategies that are directed to encouraging apparent structural inclinations could be expected to result in gains that would direct the child to his or her highest level of performance--but not necessarily earlier than otherwise would be normal.

Summary

In this study, the four modes of argumentation, exposition, narration, and description have been shown to result in significantly different levels of written syntactic complexity at the fifth-grade level. Part III--as Parts I and II before it--may be interpreted as finding that writing development is an internally predisposed process which may be stimulated naturally by writing in varying modes. In the area of writing research, control is required regarding the impact of mode on writing. Also, previous studies whose claims refer to grade- or age-norms should be reconsidered in light of the range of syntactic complexity as revealed in the findings of this study. Teacher-evaluators of writing should be alert to possible mode-based effects in basic writing strategies--and not judge the products as criticially as they encourage the process. Implications for instructional strategies have also been referred to in this study, especially the need for varying the modes as often as possible. This should not overlook the importance of following children's natural inclinations via the modes. Nature apparently encourages formal growth in writing by varying the structures that underlie the functions

of writing. Different purposes require different structural changes. On the whole, this study seems to support previous claims concerning mode in composing made by Moffett (1968). Mode is part of the whole discourse and cannot be separated--or shouldn't be--from it. The full impact of its underlying structural effects can only be felt within the full meaning of the act of composition.

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